

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, Yoshiaki Shuto, a citizen of Japan residing at Kawasaki-shi, Kanagawa, Japan have invented certain new and useful improvements in

CONSTRUCTION OF SYSTEM WITH REDUCED
LOAD ON SYSTEM ENGINEERS

of which the following is a specification : -

1 TITLE OF THE INVENTION

CONSTRUCTION OF SYSTEM WITH REDUCED LOAD ON
SYSTEM ENGINEERS

5 BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method and
a device for constructing a system as well as a memory
medium storing a program for constructing a system.
10 Operations of a business corporation usually cover a
wide variety of areas involving various types of work
even if the whole business is contained in one
industry. Such various types of work are generally
compartmentalized, and are assigned to individuals who
15 will be in charge of the assigned work. Such
individuals are in possession of the knowledge and
know-how of details of the assigned work. A particular
individual and department, however, should not retain
such knowledge for their exclusive use, and should make
20 it open to other individuals, affiliates of the
company, customers, etc., thereby reducing a time for
development of products and making efficient use of the
time. The present invention particularly relates to a
method and a device for constructing such a system as
25 well as a memory medium storing a program for
constructing such a system.

In development of software products, in
particular, there is a need for a means to learn about
details of software development which is underway in
30 other departments. The present invention further
relates to a method and a device for constructing a
system as well as a memory medium storing a program for
constructing a system which permits shared use of the
knowledge and know-how of developments between
35 different departments.

2. Description of the Related Art

Fig.1 is an illustrative drawing for

1 explaining related-art install tools.

In the related art, an operation system (hereinafter, referred to simply as OS) is first installed as shown in the figure. At the next step, RDBMS products, OLTP products, software-development programming language, host-related software, and software-development components are installed. Then, settings are made to the environment of the OS and the RDBMS with respect to the RDBMS products, and parameter changes are also made. With regard to the OLTP products, changes are made to the OS environment, and the OLTP products are installed. Further, settings to the environment are made with respect to the host-related software. After all of these, operations of each product are checked, and a connection is confirmed as shown in the figure.

When customers try to introduce a new system package, system engineers make an arrangement that a pertinent system-development division provides consultation, demonstration, and the like for the customers. The system engineers then customize the system so as to satisfy the customer needs, and have the system package delivered to the customers.

Fig.2 is an illustrative drawing showing tasks carried out by the system engineers in the related art.

As shown in the figure, upon talks with a customer, system engineers search for cases which are applicable to the customer's business, and have a demonstration conducted at an application plaza or at an office of a demonstration-development division. After seeing the customer's reaction to the demonstration, the system engineers ask an SI-support division or a system-technology-develop division to consult the customer. After the consultations, the system engineers arrange delivery of necessary software products, and wait until all the software products are

1 obtained. When everything is supplied, the system
engineers install the products in hardware, and execute
a test program to check operations. Further, the
system engineers build a target system by using
5 standardization rules so as to satisfy the needs of the
customer.

In this process, it is necessary to install and setup each product as well as to confirm a connection for each product. This results in a lengthy
10 time being needed before establishing links between all the products and making all of them operational.

Further, setting of the environment of each product requires know-how about optimization of parameters so as to achieve a faster operation speed and about handling of troubles such as a failure to establish a connection and a failure to make it operational, for example. Because of this, setting of the environment needs to be handled by experts having specialized knowledge.

20 Another problem is that wrong settings or inadvertent omission of some settings can happen during the course of a setting operation for setting each of a computer name, an IP address, user information, etc.

When a customer tries to introduce a new system package, the most appropriate package in terms of meeting the customer's needs should be selected for the customer, and such a selection is made based on the information, collected from the development divisions, about what kinds of software and hardware are available as products. In this case, if the number of the development divisions is large, the system engineers doing all of this task may suffer the increased load. Also, this leads to a situation in which a bundle of products are sold to the customer, including something that the customer does not use, thereby resulting in a cost increase on the side of the customer.

Fig.3 is an illustrative drawing showing an

1 example of a flow through which software products are
delivered and a setup is made.

As shown in Fig.3, system engineers first
design a system configuration. The system engineers
5 then prepare specifications for software products,
headers, and scripts of the application environment,
and place an order to the procurement department. A
waiting period typically ranges from two weeks to one
month. In general, all the products do not come in one
10 delivery, but rather each is delivered individually.
The system engineers need to wait until all the
products are supplied, and, thereafter, install these
products one by one in computer. A setup operation is
then performed, and a check is made with regard to
15 operations of the system before the system changes
hands from the system engineers to the customer. If
bugs are found in a software product, an order must be
placed for a replacing product. If the software
products do not perform well to satisfy the customer,
20 the system operation may be halted to install these
products again or to check the products. All of these
described above add to the load on the system engineer.

Accordingly, there is a need for a method of,
a device for, and a memory medium storing a program for
25 constructing a system, which satisfy the followings. A
system construction follows a formatted pattern so as
to guarantee quality and performance to be
satisfactory. A modeling system and know-how of
construction are provided for system engineers to
30 reduce the load on the system engineers. During the
course of construction of the system, a system engineer
can perform a demonstration of operations at his/her
own desk. The contents of the application environment
and the programming environment are stored with respect
35 to each solution pattern.

Further, there is a need for a method of, a
device for, and a memory medium storing a program for

1 constructing a system, which provide an environment for
a default system to operate by means of PP, headers,
components, scripts, etc., and permit an easy
installment with a capacity to finish delivery of
5 software and a setup operation within a matter of a day
or two rather than taking such a lengthy time period as
two weeks to one month as required in the related art.

Moreover, there is a need for a method of, a
device for, and a memory medium storing a program for
10 constructing a system, which can customize a default
system at a solution-bank center, and can supply the
system to the customer after a fine tuning thereof.

Also, there is a need for a method of, a
device for, and a memory medium storing a program for
15 constructing a system, which can provide the system
along with design documents of the default system.

Further, there is a need for a method of, a
device for, and a memory medium storing a program for
constructing a system, which allows a check on the
20 system operation to be conducted only with respect to a
portion of the system by downloading this portion so
that the evaluation of the system can be made even
before delivery of software that meets the customer
needs.

Moreover, there is a need for a method of, a
device for, and a memory medium storing a program for
constructing a system, which can categorize systems by
business transaction models.

Also, there is a need for a method of, a
30 device for, and a memory medium storing a program for
constructing a system, which can attain high quality
and productivity by making reuse of checked components
built in the default system and sample applications.

35 SUMMARY OF THE INVENTION

Accordingly, it is a general object of the
present invention to provide a method of, a device for,

1 and a memory medium storing a program for constructing
a system, which can satisfy the needs described above.

It is another and more specific object of the
present invention to provide a method of, a device for,
5 and a memory medium storing a program for constructing
a system, which satisfy the followings. A system
construction follows a formatted pattern so as to
guarantee quality and performance to be satisfactory.
A modeling system and know-how of construction are
10 provided for system engineers to reduce the load on the
system engineers. During the course of construction of
the system, a system engineer can use operational
demonstration from his/her own desk. The contents of
the application environment and the programming
15 environment are stored with respect to each solution
pattern.

In order to achieve the above objects
according to the present invention, a method of
constructing a system by collecting information and
20 know-how, includes the steps of storing information
including development situations, know-how, and
knowledge in a solution bank by a unit of a solution
pattern, and obtaining contents corresponding to a
desired system so as to construct the desired system by
25 accessing the solution bank from a computer in which
the desired system is to be constructed.

According to one aspect of the present
invention, the method described above is such that the
solution bank stores information on an application
30 environment including proposals, designs, software,
know-how, and a programming environment.

According to another aspect of the present
invention, the method described above is such that the
step of obtaining contents includes the steps of
35 accessing the solution bank based on information
including a business model, transaction forms, and a
project size, and selecting items of desired

According to another aspect of the present invention, the method described above is such that the step of obtaining contents includes the steps of
5 accessing the solution bank based on information including a solution pattern, a machine being used, a product being used, and supplying an application environment of a default system from the solution bank to the computer in which the desired system is to be
10 constructed.

According to another aspect of the present invention, the method described above is such that the solution bank provides a solution pattern categorized according to a business-transaction model which is requested by the computer in which the desired system is to be constructed.

According to another aspect of the present invention, the method described above is such that the solution bank provides only a partial function of a solution pattern for the computer in which the desired system is to be constructed.

According to another aspect of the present invention, the method described above further includes the steps of checking components incorporated into a default system which is used as a basis for the desired system, and utilizing the checked components for a computer in which another system is to be constructed.

According to another aspect of the present
35 invention, a system for constructing a system by
collecting information and know-how includes:

a solution bank including:

1 content storing means for storing information
including development situations, know-how, and
knowledge by a unit of a solution pattern; and
solution-pattern providing means for
5 providing the information stored in the content storing
means as a solution pattern or a portion of the
solution pattern in response to a request; and
a system-construction device which obtains
contents corresponding to a desired system from the
10 solution bank so as to construct the desired system by
accessing the solution bank.

According to another aspect of the present
invention, the system described above is such that the
solution bank stores information on an application
15 environment including proposals, designs, software,
know-how, and a programming environment.

According to another aspect of the present
invention, the system described above is such that the
system-construction device includes accessing means for
20 accessing the solution bank based on information
including a business model, transaction forms, and a
project size, and selecting means for selecting items
of desired information from items presented by the
solution bank.

25 According to another aspect of the present
invention, the system described above is such that the
access means accesses the solution bank based on
information including a solution pattern, a machine
being used, a product being used, and the solution-
30 pattern providing means supplies an application
environment of a default system from the solution bank
to the system-construction device.

According to another aspect of the present
invention, the system described above is such that the
35 solution-pattern providing means further supplies
design documents of the default system from the
solution bank to the system-construction device.

1 According to another aspect of the present
invention, the system described above is such that the
solution-pattern providing means provides a solution
pattern categorized according to a business-transaction
5 model which is requested by the system-construction
device.

 According to another aspect of the present
invention, the system as described above is such that
the solution-pattern providing means provides only a
10 partial function of a solution pattern for the system-
construction device.

 According to another aspect of the present
invention, a machine-readable memory medium having a
program embodied therein for constructing a system by
15 collecting information and know-how is presented. The
program includes a solution-pattern providing program-
code device configured to cause a solution bank, which
stores information including development situations,
know-how, and knowledge by a unit of a solution
20 pattern, to provide the information as a solution
pattern or a portion of the solution pattern in
response to a request, and a system-construction
program-code device configured to cause a system-
construction device to obtain contents corresponding to
25 a desired system from the solution bank so as to
construct the desired system by accessing the solution
bank.

 According to the present invention described
above, contents are stored in the solution bank by a
30 unit of a solution, and are supplied as a solution in
its entirety or as a portion of the solution in
response to an access from the system-construction
device operated by a system engineer. In this
configuration, the system engineer does not have to
35 arrange delivery of each component and tool in
accordance with the business practice of the customer,
and only notifies the solution bank of necessary

1 information to obtain appropriate contents
corresponding to the business practice. All of these
can be done by working on a device provided at the
system-engineer's own desk or at a site of the
5 customer. Namely, the system engineer can obtain the
contents, perform a demonstration, etc., without
leaving his/her own desk or the customer site.

Further, the solution bank according to the
present invention includes information on an
10 application environment including proposals, designs,
software, know-how, and a programming environment,
thereby making it possible to provide contents suitable
for the business practice of the customer by selecting
such contents from various application environments.
15 Namely, there is no need for the system engineer
himself/herself to find necessary contents, thereby
reducing the load on the system engineers.

Moreover, the solution bank is accessed by
the system engineer based on the information including
20 a business model, transaction forms, and a project
size, and the items of the information supplied from
the solution bank is subjected to a selection of
necessary items. This achieves elimination of
unnecessary information, leaving only the items which
25 satisfy the customer needs.

Also, the solution bank is accessed by the
system engineer when the system engineer specifies a
solution pattern, a machine being used, a product being
used. In response, the solution bank provides the
30 application environment of the default system in one
batch. This eliminates a need to construct a default
system step by step by collecting individual
components, thereby shortening a system-construction
time.

35 Further, design documents of the default
system can be obtained from the solution bank in one
batch, so that the system engineer does not have to

1 collect the design documents one by one for each
design. This results in a reduction in a system
construction time.

Moreover, a solution pattern is categorized
5 according to the business transaction model, and is
provided from the solution bank. This reduces the load
imposed on the system engineer, and makes it possible
to complete the procurement of software and the setting
up of the system within a matter of a day or two while
10 it would have taken at least two weeks to one month in
the related art.

Further, only a partial function of the
contents can be obtained from the solution bank, so
that a test run may be conducted to provide an
15 evaluation of the partial function with an aim of
helping in determining whether to purchase the entire
function. This allows an evaluation to be made with
regard to software before ordering the software,
helping to determine a general direction toward the
20 construction of the system. Since the partial function
is actually presented to the customer, it helps the
customer to visualize the picture of the system for the
better understanding thereof.

Also, contents incorporated into the default
25 system are checked, so that the checked components are
reused when another system engineer requests these
components. This achieves a high productivity, and
renders a high quality to the system.

Other objects and further features of the
30 present invention will be apparent from the following
detailed description when read in conjunction with the
accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

35 Fig.1 is an illustrative drawing for
explaining related-art install tools;

Fig.2 is an illustrative drawing showing

Fig.3 is an illustrative drawing showing an example of a flow through which software products are delivered and a setup is made;

Fig.5 is a flowchart showing operations of a
10 system-construction-know-how extracting device
according to the present invention;

15 Fig.7 is an illustrative drawing for
explaining an application environment of a default
system;

20 Fig.9 is a flowchart of operations performed
at the time of providing a default system according to
the present invention;

25 Fig.11 is a flowchart combined with an
illustrative drawing for explaining the downloading of
a partial function;

Fig.13 is an illustrative drawing showing an example of a hierarchical structure;

Fig.15 is an illustrative drawing showing a

1 process of generating an installment medium;

Fig.16 is an illustrative drawing showing a process of installing all components;

5 Fig.17 is an illustrative drawing showing a procedure that system engineers follow according to the present invention;

Fig.18 is an illustrative drawing for explaining reuse of components;

10 Fig.19 is an illustrative drawing showing an example of a displayed screen used at the time of solution-pattern selection according to an embodiment of the present invention;

15 Fig.20 is an illustrative drawing showing an example of another displayed screen used at the time of solution-pattern selection;

Fig.21 is an illustrative drawing showing an example of yet another displayed screen used at the time of solution-pattern selection; and

20 Fig.22 is an illustrative drawing showing an example of a list of software products used by customers.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

25 In the following, embodiments of the present invention will be described with reference to the accompanying drawings.

Fig.4 is an illustrative drawing showing a configuration of a system-construction system based on a solution bank according to the present invention.

30 The system of Fig.4 includes a system-construction-know-how extracting device 100 and a solution-bank center 200.

35 The system-construction-know-how extracting device 100 is used by system engineers and customers, and is connected to the solution-bank center 200 via a network or the like. The system-construction-know-how extracting device 100 is equipped with a function to

1 extract exemplary cases or the know-how of designs or
the like from the solution-bank center 200, and, also,
is equipped with a function to install the extracted
information in the system-construction-know-how
5 extracting device 100.

The solution-bank center 200 searches for
factual-case files or know-how-pattern-design kits in
response to an access from the
system-construction-know-how extracting device 100, and
10 retrieves exemplary cases, design formats, a guide to
an educational course, standardization rules, means-
design kits, etc.

In what follows, operations will be described
with regard to a case in which a system engineer
15 accesses the solution-bank center 200 from his/her own
terminal for the purpose of demonstrate operations of a
system.

Fig.5 is a flowchart showing operations of
the system-construction-know-how extracting device 100
20 according to the present invention.

At a step S101, a business talk is held with
a customer with regard to the construction of a
particular system.

At a step S102, the system engineer makes a
25 search request to the solution-bank center 200 with
regard to business models, transaction forms, project
sizes, products to be delivered to the customer, etc.

At a step S103, the solution-bank center 200
searches for factual-pattern files and
30 know-how-pattern-design kits. If searched objects are
retrieved, the procedure goes to the step S104.
Otherwise, the procedure is brought to a halt. In the
latter case, another search may be conducted by using
other search keywords.

35 At a step S104, since the search came up with
retrieved results, a close look is taken at the
retrieved information by using a browser provided in

1 the system-construction-know-how extracting device 100.
Here, the retrieved information includes tags
indicating item names or the like attached to
respective items of information for indication
5 purposes.

At a step S105, the system engineer selects
tags which are applicable to the customer. If the
selection of the tags is made, the procedure goes to a
step S106. If the selection of tags is difficult to
10 make because of an excessive number of the tags, the
procedure goes to a step S107.

At the step S106, the system-construction-
know-how extracting device 100 uses an installment
function thereof to install therein the exemplary cases
15 or the know-how patterns from the solution-bank center
200 based on the tags selected at the step S105.

At the step S107, when it is difficult to
select tags because an excessive number of tags are
resulted from the use of current search keys, another
20 search is conducted in the solution-bank center 200
after narrowing the range of search by changing the
search keys. Then, the procedure goes back to the step
S102.

In what follows, operations will be described
25 with regard to a case in which the system engineer or
the customer performs a demonstration based on sample
programs by accessing the solution-bank center 200.

Fig.6 is an illustrative drawing for
explaining how the demonstration system of the present
30 invention works.

As shown in the figure, the system engineer
may visit the solution-bank center 200, and use a
terminal therein to demonstrate the system under the
real conditions by using sample programs.

35 Without making a visit to the solution-bank
center 200, the system engineer may use a WWW browser
of the system-construction-know-how extracting device

1 100 provided at his/her desk so as to access program-
execution image data (e.g., Lotus Screen Cam) via a
network (e.g., FJ-WAN). In this manner, the system
engineer may download voice descriptions and replay the
5 downloaded voice data at the system-construction-know-
how extracting device 100 (personal computer).

In the case where the system engineer is
posted at a site of the customer, he/she may access the
solution-bank center 200 via a network (e.g., Mobile-
10 FNET) by using a PHS (personal handy-phone) or the like
in order to obtain necessary information.

In what follows, a description will be given
with regard to a case in which an application
environment of a default system is provided from the
15 solution-bank center 200 so as to install the same in
the system-construction-know-how extracting device 100.

Fig.7 is an illustrative drawing for
explaining an application environment of a default
system.

20 The solution-bank center 200 includes various
exemplary cases (field projects), know-how (regarding
components, formats, designs), information regarding
products (e.g., handbooks, check results,
consultation), or the like supplied from a set of
25 computers connected via the network. Namely, these
items are kept in the solution-bank center 200 as
available solution patterns. For system-operation
purposes, backup shells, batch-job control, monitor-
item definitions, etc., are provided. The application
30 system includes sample applications and skeleton
components (for an input check, an updating process, a
tallying process, a matching process, and the like).
Further, a DB-generation unit, file-transfer
definitions, work-unit definitions, and the like are
35 provided as the Symfo WARE. The operation system
includes a disk layout and parameter definitions.

The application environment (PP, definitions,

1 components, scripts, and so on) of the default system
is treated as design know-how, and is supplied to the
system engineers as a real environment to work with.
Because of this, the system-construction-know-how
5 extracting device 100 can simply make a copy of systems
when there is a need to install the systems operable in
this environment.

Fig.8 is an illustrative drawing for
explaining a method of providing a default system. As
10 described above, the systems operable in the real
environment include DB-data associations, TP monitors,
languages, and operation management tools as PP-related
information, and further include design documents,
definitions/scripts, components/skeletons, sample
15 applications, data, installers, etc., as the pattern-
related information. These items are customized in
accordance with each customer's needs, and are copied
(installed) to the memory medium of the system-
construction-know-how extracting device 100.

20 The PP-related information and the pattern-
related information are supplied to the customer for
the trial use thereof until a contract is signed.
After the signing of a contract, these items are
supplied as fully-arranged products.

25 In what follows, operations performed at the
time of providing the default system will be described.

Fig.9 is a flowchart of operations performed
at the time of providing a default system according to
the present invention.

30 At a step S201, a decision is made as to
whether components of the default system are applicable
after consulting with experts of the solution-bank
center 200. Alternatively, portions of the default
system are identified as portions needing to be
35 customized in order to satisfy the customer needs.

At a step S202, the identified portions are
customized in accordance with business requirements.

1 At a step S203, a check is made on operations
of the customized system, and tuning is applied to
enhance performance.

5 At a step S204, a backup system is created
with respect to the customized default system.

 at a step S205, the default system is
installed in the user machine. After the installment,
operations of the default system are checked.

10 Selection of the portions needing to be
customized at the step S201 is made based on the
default-system-design documents as shown in Fig.10.

 In the following, a description will be given
with regard to operations performed when only a partial
function of the contents is downloaded from the
15 solution-bank center 200 to the system-construction-
know-how extracting device 100. This process may be
useful if used in checking operations when only a
partial function is installed at the step S205
described above.

20 Fig.11 is a flowchart combined with an
illustrative drawing for explaining the downloading of
a partial function.

 At a step S301, a system engineer tries a
partial function at the system-construction-know-how
25 extracting device 100 after the partial function is
installed from the solution-bank center 200.

 At a step S302, a portion of the default
system is selected by using a browser.

30 At a step S303, the selected default system
is downloaded from the solution-bank center 200. In an
example of Fig.11, two functions, i.e., a print
function and an identification function, are
downloaded.

35 At a step S304, the system engineer checks
the operations of the downloaded components at the
system-construction-know-how extracting device 100.

 In what follows, a description will be

1 provided with regard to a process which categorizes
solution patterns according to the customer's business
transaction model on the side of the solution-bank
center 200.

5 Fig.12 is a flowchart for explaining the
process of categorization according to the present
invention.

At a step S401, an exemplary case is
identified among real projects being engaged on the
10 customer side.

At a step S402, the identified case is
transformed into a solution pattern. Then, a
classification under which the solution pattern is
categorized is determined.

15 At a step S403, the solution pattern is
categorized by the classification. Classification may
include operational management, a work flow, GW, DWH, a
base-system model, and so on, wherein the base-system
model includes a host-centralized processing model, a
20 server-centralized processing model, and a distributed
processing model.

The solution pattern described above includes
items which are organized in hierarchy as shown in
Fig.13, and are stored as the contents of the solution-
25 bank center 200. There are three levels in the
hierarchy in an example of Fig.13. However, the number
of levels is not limited to three, and can be any
number. In the figure, the know-how contents shown as
the "three level hierarchy (GS-NI-PS)" model may
30 further include "operation-environment-expansion
scenario", "operation-environment illustrative
description", etc., and "operation-environment
illustrative description" may further include
"operation-environment/illustrative-description
35 download". The contents hierarchically organized in
this manner form a base from which a necessary content
is extracted and categorized.

1 In what follows, a description will be
provided with regard to a case in which the system
engineer gets hold of the contents from the system-
construction-know-how extracting device 100 and
5 evaluates the same before delivering software to the
customer.

Fig.14 is an illustrative drawing for
explaining a process of evaluating software before the
delivery thereof to the customer according to the
10 present invention.

A system engineer posted at a customer site
sends inquiries regarding construction of a customer
system and a request for consultation from the system-
construction-know-how extracting device 100 to the
15 solution-bank center 200. In response, demonstrations
are carried out as part of consultations on the side of
the solution-bank center 200, and a review is made as
to whether a system can be introduced. Further, the
contents are supplied to the system engineer as a trial
20 pattern (a SoftLook version) for temporary use. For
example, a trial period of the SoftLook version may be
set to three months with a key, so that the key is
locked to prevent further use after an expiration of
this time period. If the contract is extended, the key
25 is unlocked to permit further use or allow a
reinstallment of the contents.

The system engineer at the customer site
installs the components supplied for temporary use in
the customer computer, and evaluates the components by
30 running these on the computer. The customers are asked
to participate in the reviewing process, and decisions
are made to select necessary components from the
components provided as the SoftLook version. A
purchase contract is made only with respect to the
35 necessary contents. After the signing of the contract,
products are delivered from the shipment division.
Here, the delivered products include software and

1 hardware or either one of them.

When the products are supplied to the customer, they are installed again.

Fig.15 is an illustrative drawing showing a process of generating an installment medium.

A system engineer on the provider side (bank) generates a model environment, and makes a backup copy of the changed portions of the systems except for the OS portions. The system engineer then prints out a list of products. After the completion of the backup-copy process, an installer is incorporated into the medium to complete the installment medium. The installment medium is then handed to a system engineer on the customer side along with the printout of the list of products.

In what follows, the procedure which the system engineer on the customer side follows after receiving the installment medium will be described.

Fig.16 is an illustrative drawing showing a process of installing all components.

An OS is first installed, and, then, the installment medium having software components recorded therein as described above is used for installing all the components. At the time of installment, identification information of the personal computer (e.g., a name of the computer, an IP address, a user ID, and so on) is entered. A check is made on the operations of the installed software components, and an evaluation is made with respect to each of them. If there is a product that turned out to be unnecessary based on the evaluation, this product is deleted. Products which are actually purchased are named in a printout of a list of products, and the printout of the list is used for ordering.

In this manner, all the products are installed at once by using the installment medium, so that a setup time is relatively short. The system

1 engineer on the customer side does not need special
knowledge because the environment-related settings of
each product are made in advance in the installment
medium. Also, the identification information of the
5 computer is entered on the same screen, so that there
is little room for typographical mistakes. Since the
environment is checked in advance as to the operability
thereof, evaluation of the operations thereof can be
readily made immediately after the installment of the
10 products. Further, since the actual order to purchase
the products is made after making the evaluation, an
accurate order without omission or excess items can be
made. The list of the products includes necessary
products and order codes (product codes) thereof, so
15 that a time to fill out the order can be shortened.

In summary, tasks of the system engineers
between the customer side and the bank side are as
follows.

Fig.17 is an illustrative drawing showing a
20 procedure that system engineers follow according to the
present invention.

As shown in Fig.17, the system engineers
select a solution pattern from the solution patterns
stored in the solution-bank center 200 by operating on
25 the system-construction-know-how extracting device 100
so that the selected solution pattern is applicable to
the customer with whom business talks are underway, and
download software components from the solution-bank
center 200 to a memory medium with respect to the
30 selected solution pattern. The contents stored in the
medium is then installed in the customer-side computer
by operating the installer. Finally, the installed
contents are operated, and are subjected to operation
checks.

35 A description will be given below with regard
to a case in which checked components, sample
applications, or the like provided in the default

1 system are subjected to reuse thereof. Here, the reuse
of the checked components may be made with respect to
packaged components or any other forms of components.
Such information about a default system as PP,
5 components, environment definitions, sample
applications, and so forth is copied to a check system
of the SI vendor, where a technical evaluation is made
on the default system. Then, such tools as performance
tools, design know-how, trouble information,
10 standardization information, etc., are transferred from
the default system to a target system. In the target
system, copied and checked components are subjected to
reuse thereof for design purposes, and are used in
another system. In this manner, high productivity and
15 high quality can be achieved.

In the following, an embodiment of the
present invention will be described.

In an example set forth in the following, a
description will be given with regard to a case in
20 which a system is constructed for a customer by a field
system engineer (working at the customer site)
interacting with the solution-bank center 200.

Fig.19 is an illustrative drawing showing an
example of a displayed screen used at the time of
25 solution-pattern selection according to an embodiment
of the present invention. Fig.20 is an illustrative
drawing showing an example of another displayed screen
used at the time of solution-pattern selection, and
Fig.21 is an illustrative drawing showing an example of
30 yet another displayed screen used at the time of
solution-pattern selection.

On a browser screen shown in Fig.19, items
for multiple choices are shown with respect to a
pattern, a machine being used, and a product being
35 used. In this example, the system engineer selects
"base-system transaction" for the pattern, "GP5000" and
"GS" as the machine he/she is using, and "SymfoWARE" as

1 the product he/she is using. Based on these
selections, a search result is obtained from the
solution-bank center 200 as shown in Fig.20, providing
information about "base-system-tri-hierarchical-level
5 GS-GP5000" displayed on the browser screen. It is
possible that a plurality of search results are
obtained, in which case these results may be displayed
by use of a scroll bar.

In the example of Fig.20, the system engineer
10 selects an illustrative-description document from the
item "planning", a design document and
components/samples from the item "design/construction",
and a design kit from the item "know-how" under the
title "application environment".

15 As a consequence of the selection, a guide as
shown in Fig.21 is displayed so as to indicate
conditions to which the base-system-tri-hierarchical-
level GS-GP5000 pattern can be properly applied. Using
this guide, the system engineer proceeds with a task of
20 selecting components meeting the customer needs.

In this manner, the bank side receives
information about components selected by the system
engineer posted at the customer site. Upon receipt of
the information, a list as shown in Fig.22 is
25 generated. In this example, Fig.22 shows a list of
software products used by the customer, and the list is
comprised of such column fields as software names,
functions, prices, etc. When the system engineer at
the customer site receives the list, the list can be
30 shown to the customer as a quota. The system engineer
at the customer site deletes unnecessary items from the
list, and adds necessary items to the list. In this
manner, the customer can avoid signing a contract
including unnecessary items by simply deleting them
35 from the list.

The present invention is readily implemented
as software embodying functions of the system-

1 construction-know-how extracting device 100 and the
solution-bank center 200. Such software may be stored
in a computer-readable memory medium connected to the
hardware of the system-construction-know-how extracting
5 device 100 and the solution-bank center 200, and the
memory medium may be provided in the form of a floppy
disk, a hard drive, CD-ROM, or the like. The solution
system is implemented by installing the software in the
respective devices.

10 Further, the present invention is not limited
to these embodiments, but various variations and
modifications may be made without departing from the
scope of the present invention.

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